



REPLACEMENT SHEET

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H

SUGAR-CONTAINING AMPHIPHILIC OLIGOMERS

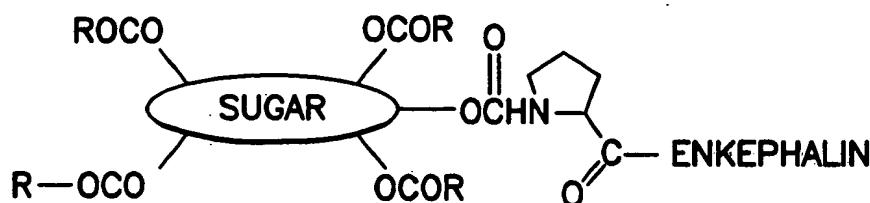


FIG.1A

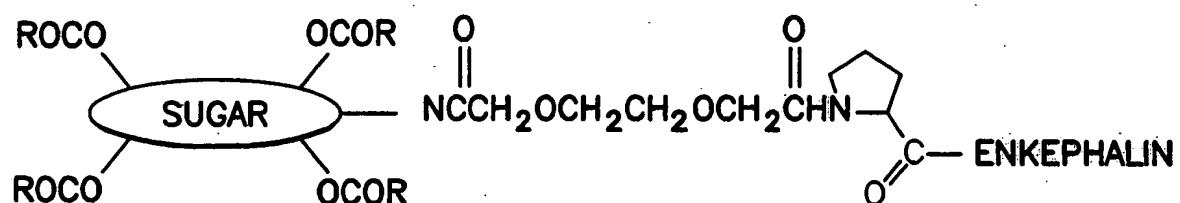


FIG.1B

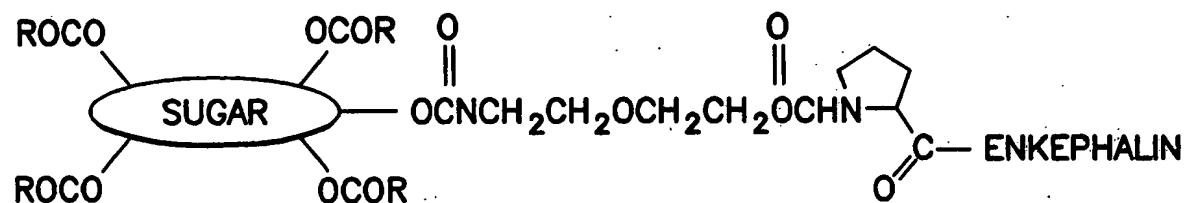
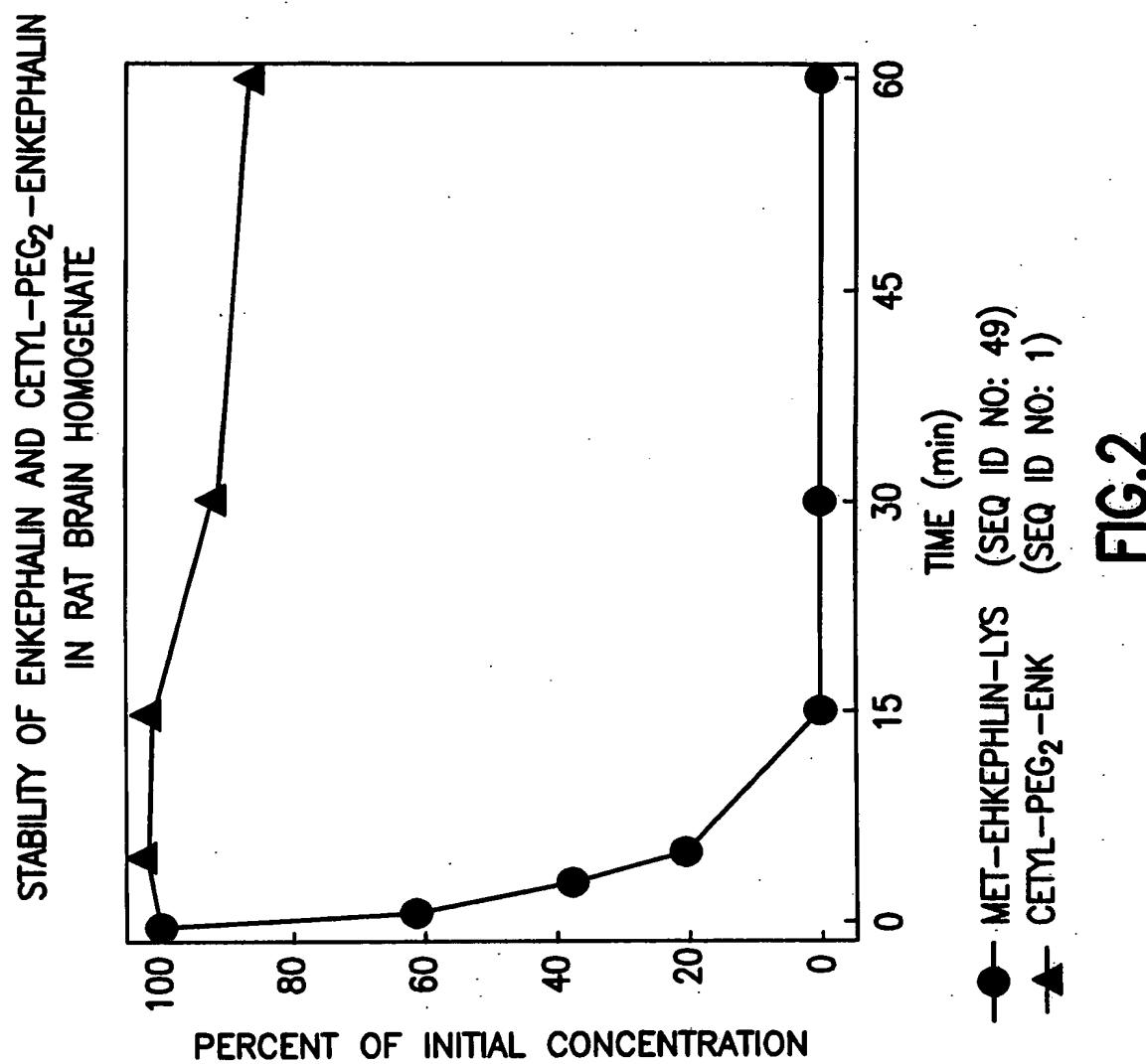


FIG 1C



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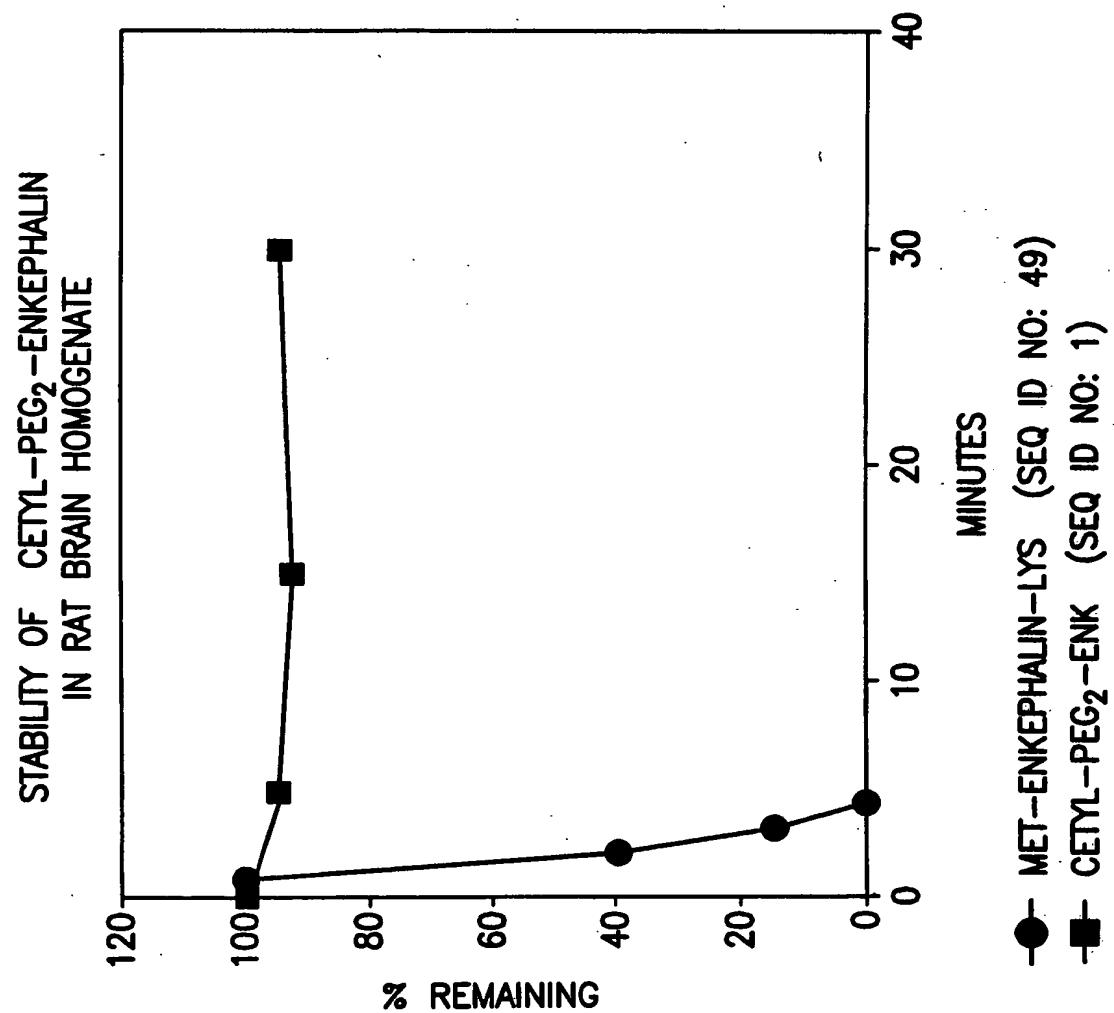


FIG. 3



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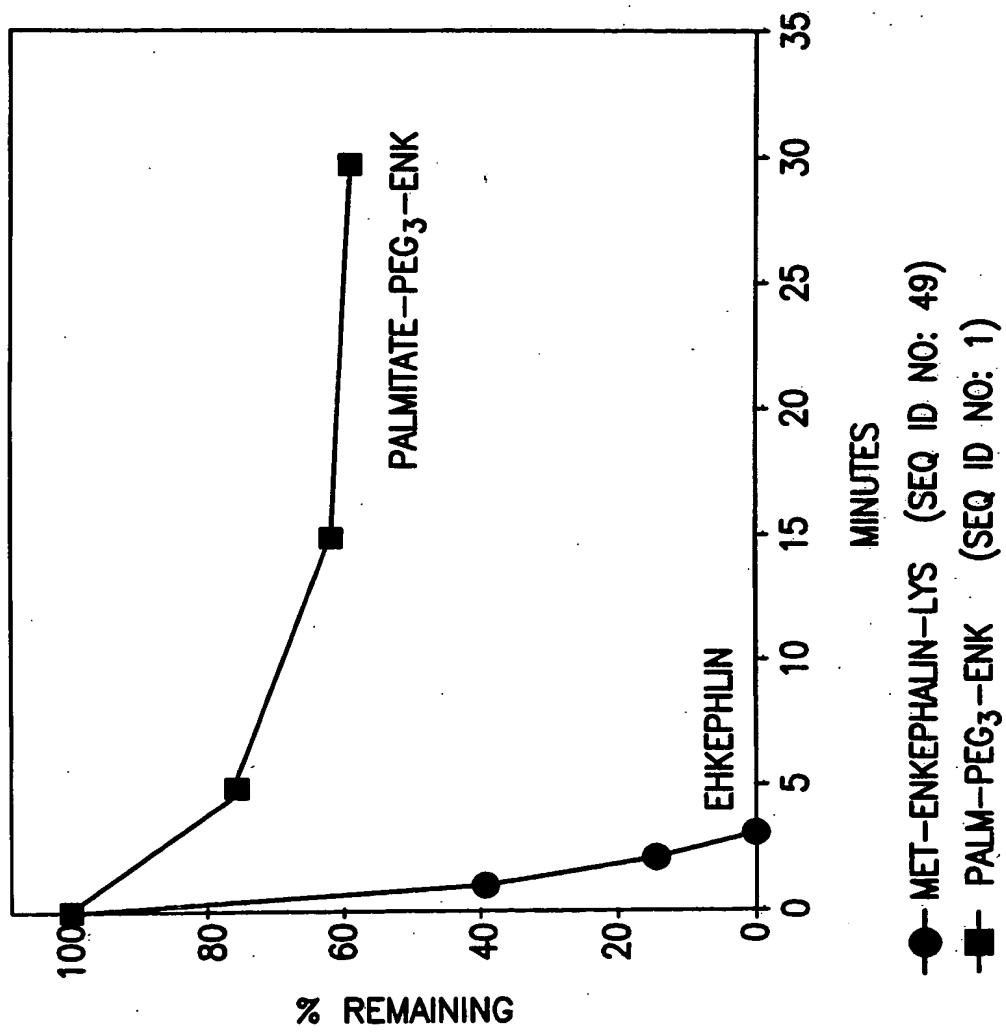
STABILITY OF PALMITATE-PEG₃-ENKEPHALIN
IN RAT BRAIN HOMOGENATE

FIG. 4

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ISOLATION OF CETYL-PEG₂-ENKEPHALIN (SEQ ID NO: 1) FROM THE BRAIN

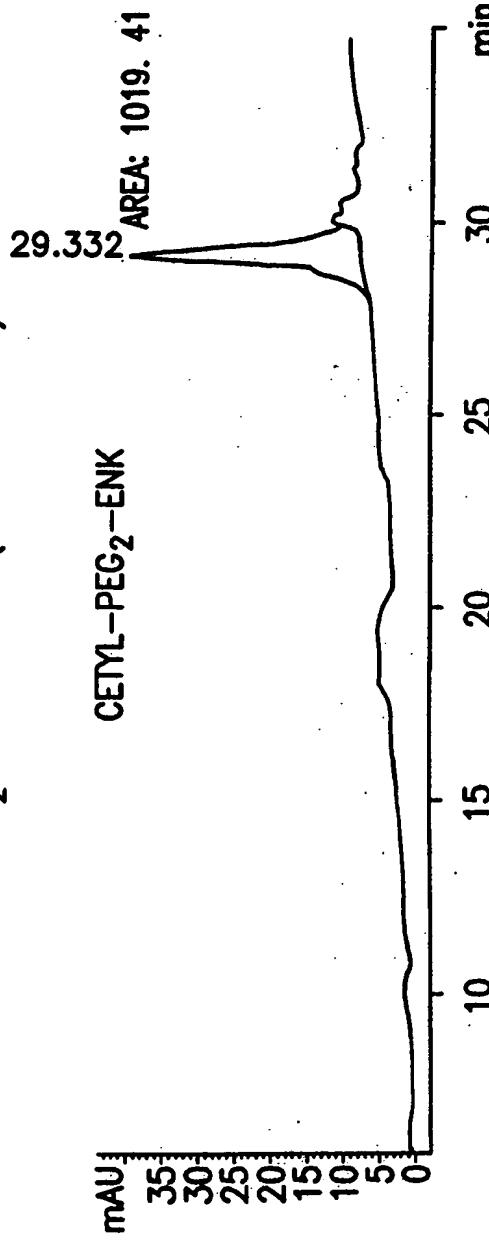


FIG. 5A

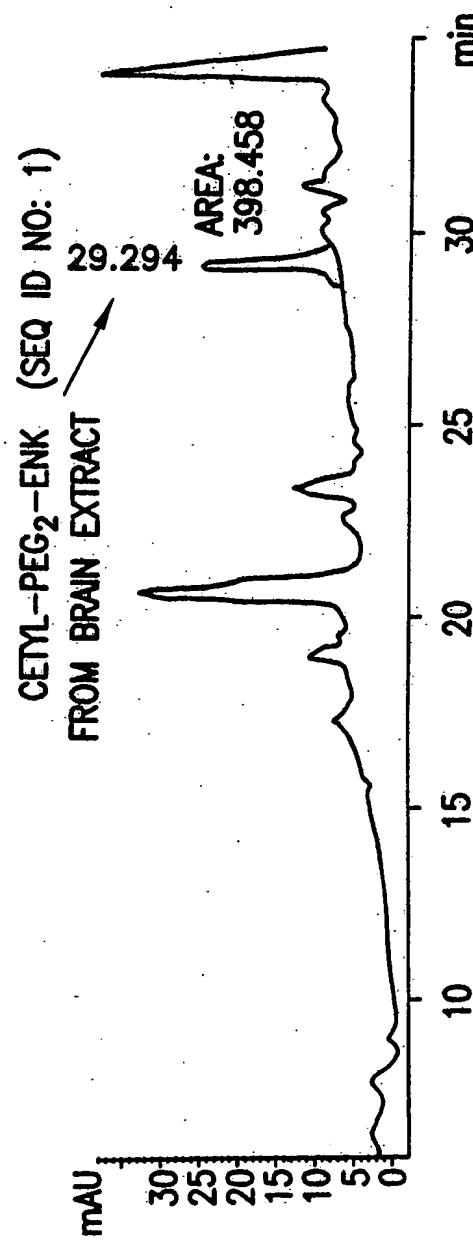
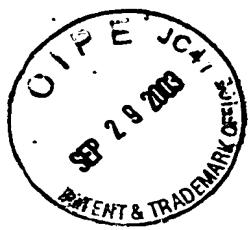
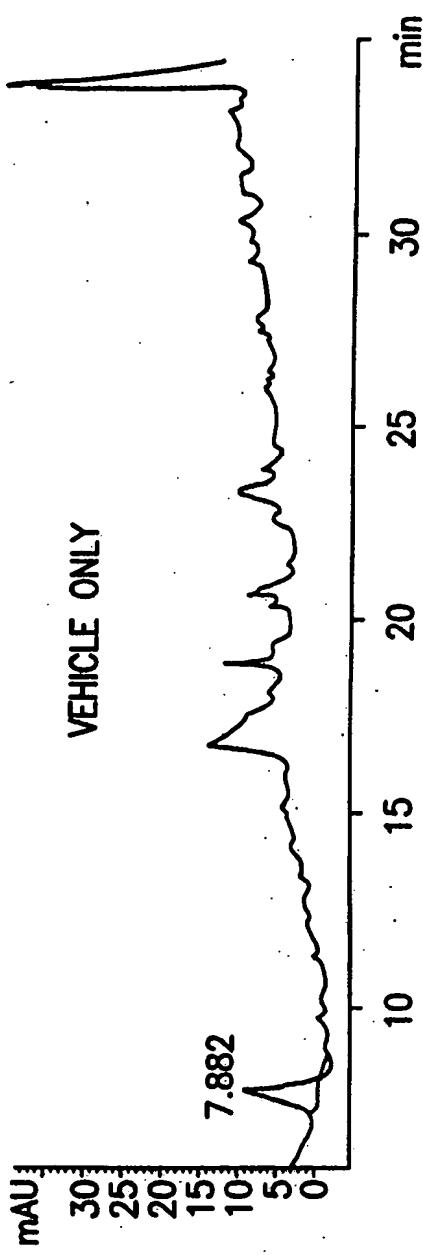


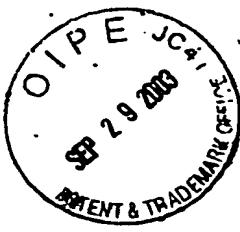
FIG. 5B



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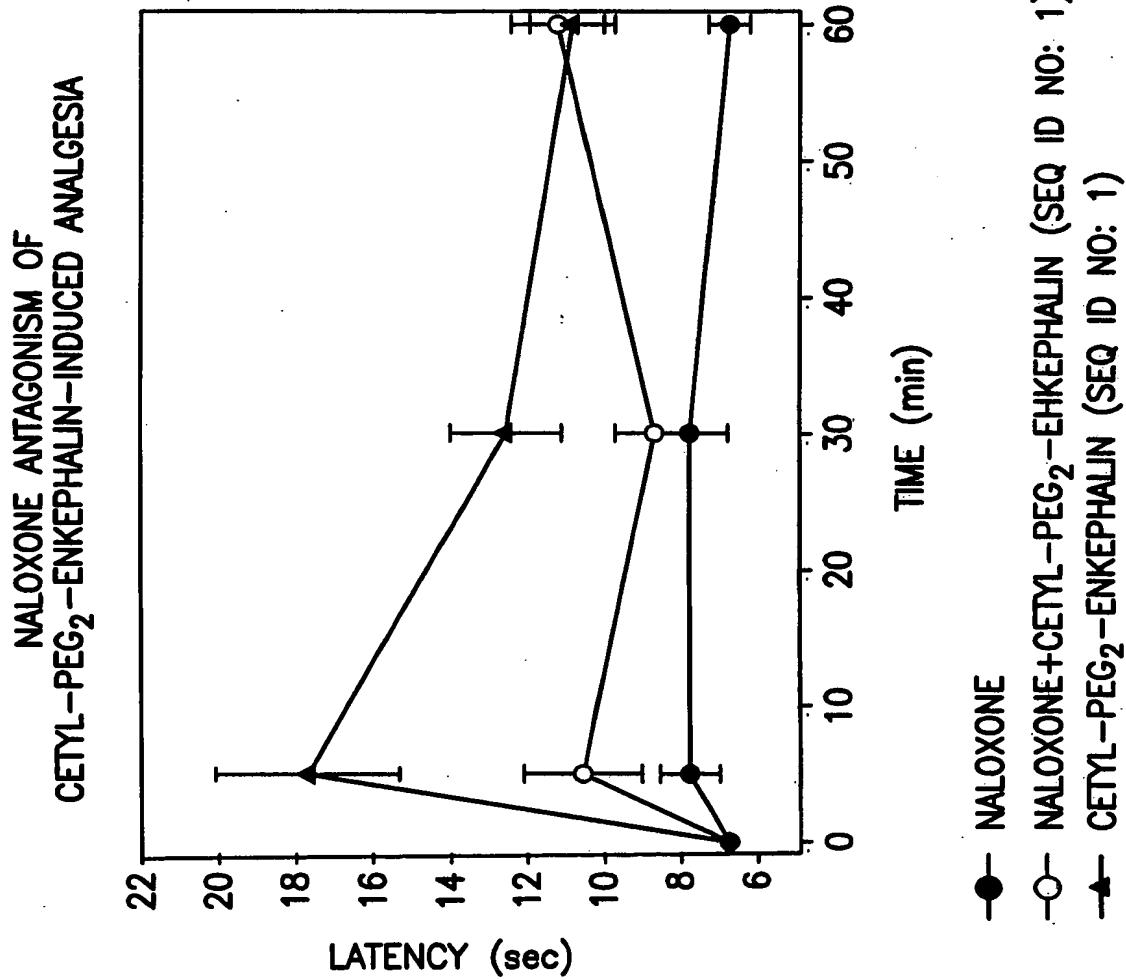


FIG 6

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ANALGESIC EFFECT OF A 5 mg/kg IV DOSE OF CETYL-PEG₂-ENKEPHALIN MONOCOCONJUGATE IN THE RAT HOT-PLATE ASSAY (SEQ ID NO: 1)

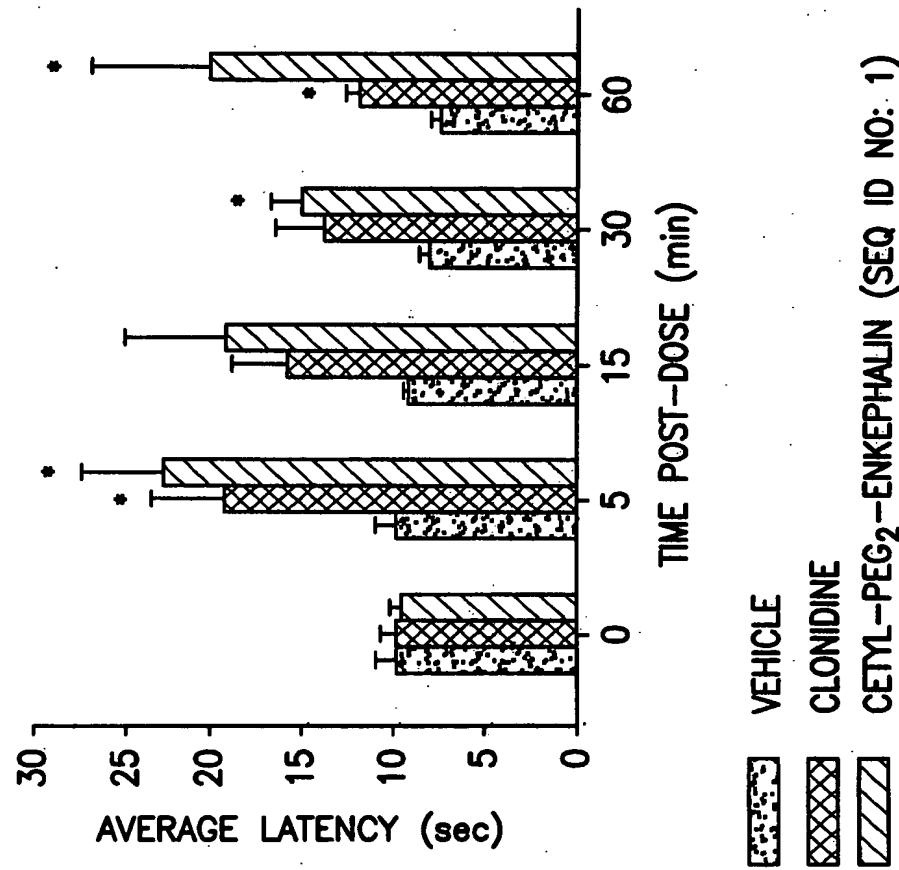
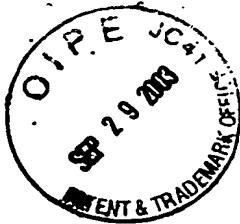


FIG 7



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COMPARISON OF μ -RECEPTOR BINDING AFFINITY OF ENKEPHALIN CONJUGATES		
DRUG OR CONJUGATE	DETAILED STRUCTURE	% SPECIFIC BINDING
NALOXONE	NALOXONE	100
ENKEPHALIN	MET-ENKEPHALIN-LYS (SEQ ID NO: 49)	67
CETYL-ENK	CETYL-PEG ₂ -ENK (SEQ ID NO: 1)	100
CHOL-ENK	CHOLESTEROL-PEG ₃ -ENK (SEQ ID NO: 1)	95
DHA-ENK	DHA-PEG ₂ -ENK (SEQ ID NO: 1)	63
PALM-ENK	PALMITATE-PEG ₃ -ENK (SEQ ID NO: 1)	76
CETYL-TEG-ENK	CETYL-PEG ₃ -ENK (SEQ ID NO: 1)	100

FIG.8



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SYNTHESIS OF OLIGOMER

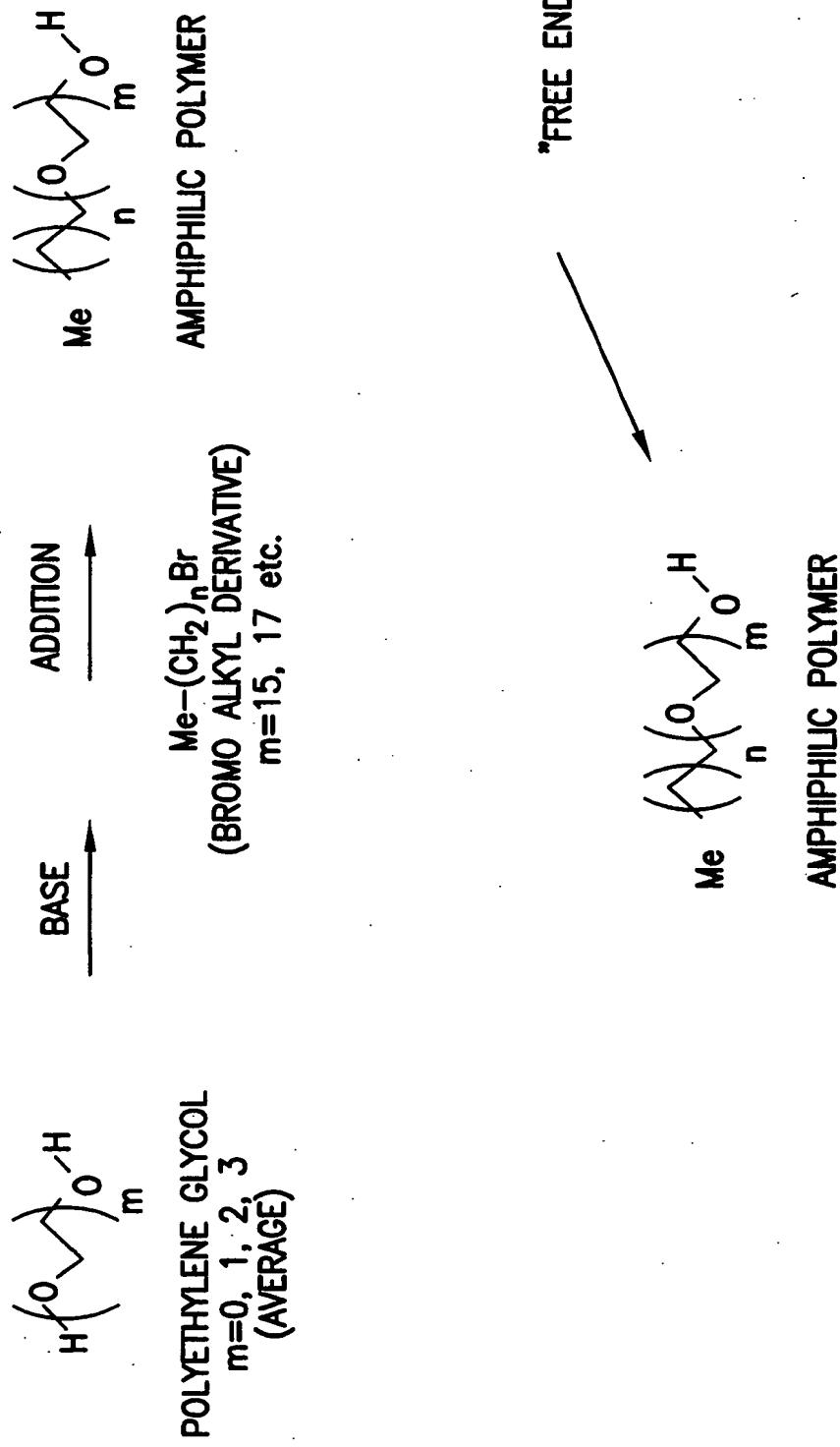


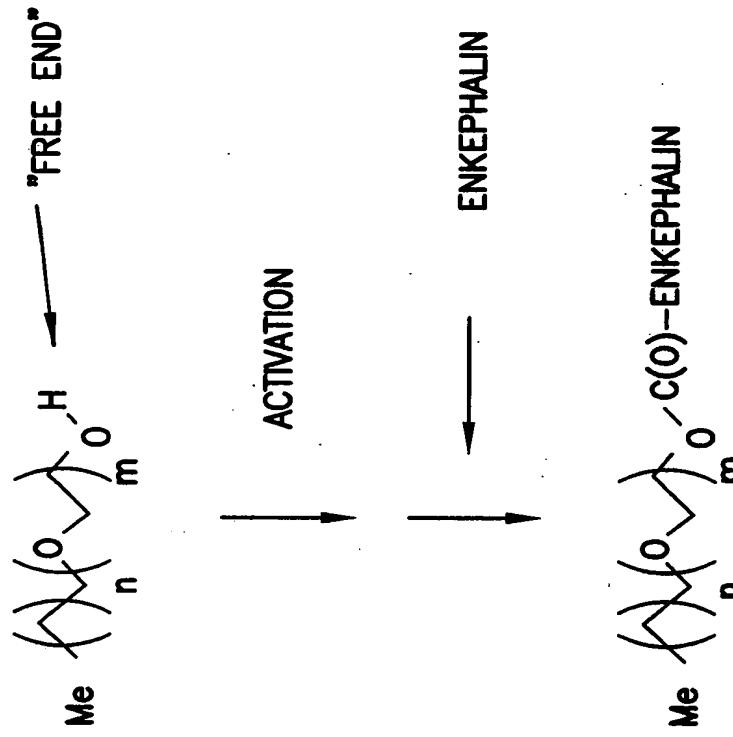
FIG.9



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ATTACHMENT OF OLIGOMER TO ENKEPHALIN



OLIGOMER-ENKEPHALIN-CONJUGATE

EXAMPLE m=14 AND n=2 CETYL-PEG₂-ENKEPHALIN

FIG 10